

UNITED STATES PATENT APPLICATION SPECIFICATION

DISC HOLDER SUITABLE FOR BINDING

FIELD OF INVENTION

This invention relates generally to disc holders, more specifically, to a data disc holder suitable for binding into printed publications.

BACKGROUND OF THE INVENTION

Publishers of books and other printed publications often desire to include additional materials with their publications, such as tear-out inserts, software, music or data. One common carrier of this additional content is a data disc, such as a compact disc or DVD, which can be bound into the publication, typically against the front or back cover of the publication. Publications are typically assembled by binding together a number of sections, commonly referred to as signatures. Accordingly, to include a data disc in a publication, the data disc is placed in the holder and the holder is then treated as a signature and bound into the publication.

A number of data disc holders have been fabricated for the purpose of including a data disc in a publication. Some common data disc holders include paper holders with windows, plastic holders and vinyl holders. However, paper holders are expensive to manufacture. The plastic holders are problematic because as the holders are treated as signatures, the holder is jogged to the top or bottom of the publication as the publication and data disc holder run through the jogging, gluing and trimming processes. During the trimming process, the holders with plastic are trimmed and the resulting waste material pollutes the paper recycling systems of the

manufacturer. Vinyl holders, whether transparent, opaque or translucent, suffer from the same problems as both the plastic and paper holders.

Other combinations of materials have also been used, including data disc holders with a combination of a top transparent layer such as plastic and a bottom non-woven fabric. However, the combination holders cost substantially more to manufacture and either have signature trimming recycling problems or require costly preassembly and/or attachment operations.

Accordingly, as mentioned, the existing data disc holders intended for binding into publications include significant limitations. As a result, significant improvement can still be made relative to creating a less expensive and recycling compatible data disc holder.

SUMMARY OF THE INVENTION

The present invention is intended to provide an improved data disc holder that is less expensive, recycling compatible, easy to include in the binding process and securely holds the data disc during the binding process, and transparent thereby permitting viewing of the enclosed data disc.

The data disc holder is generally comprised of a transparent top layer and an opaque or translucent base layer. The two layers are glued together to form a pocket that can receive a data disc that is viewable from the outside. The top layer is glued substantially to the base layer on three of the four sides of the layers and on the fourth side a sufficient space is left to slide the data disc into the pocket; accordingly, the fourth side is only partially glued.

The glue on the fourth side terminates at a distance sufficient to permit the data disc to be inserted into the pocket between the layers at the unglued portion of the fourth side. Also, the

glue is preferably of a strength that permits the edge of the data disc to penetrate the bond between the plastic and paper layers enough to allow the data disc to become wedged into the edges, but not so much as to permit the data disc to entirely break the bond and exit the holder. The top is also die-cut to form a zipper tab to permit easy removal of a portion of the top layer to enable access to the data disc pocket.

In a preferred embodiment, the base layer is paper and the top layer is plastic and sized to be less than the area of the base layer, thereby avoiding trimming of the top layer plastic during the trim portion of the binding process. In one embodiment this is achieved by having a top layer waste matrix that is removed from the holder's base layer. In another embodiment this is achieved by simply using a plastic layer that is smaller than the base layer.

In one process for manufacturing the holder, the paper and plastic materials are initially contained on two separate rolls. The rolls are aligned so the paper roll dispensed from the paper roll is located beneath the plastic dispensed from the plastic roll. As the paper is unrolled, it is stamped with an ultraviolet glue stamp that imparts the desired glue pattern onto the paper. The paper and plastic materials are then married together and an ultraviolet light cures the adhesive. The paper and plastic can be any thickness or composition, however, the marrying of the materials has been found to work well using a 2 mil polyethylene plastic layer to provide enough weight to enable marriage of the materials without using excess plastic.

One advantage of the present invention is that the data disc holder is less expensive to manufacture. Another advantage of the invention is that the data disc holder does not create plastic waste product during the trim portion of the binding process and is therefore compatible with existing paper recycling systems. The invention also has the advantage of permitting

viewing of the data disc through the top layer of the holder. Another advantage is that the holder retains the disc more securely during the binding process. Another advantage is that the data disc can easily be removed from the publication by pulling the die-cut zipper tab.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a top elevational view of one embodiment of the present invention.

FIGS. 2A and 2B are side and top elevational views, respectively, showing the insertion of a data disc into the disc holder and FIGS. 2C, 2D and 2E are depictions of potential movements of the data disc within the disc holder.

FIGS. 3A and 3B are perspective views of the disc holder bound into a book prior to trimming.

FIGS. 4A and 4B are perspective views of the disc holder bound into a book after trimming.

FIG. 5A and 5B are perspective views of the disc holder prior to and during removal of the data disc from the holder.

DETAILED DESCRIPTION

FIG. 1 illustrates one embodiment of the disc holder 10. The holder 10 has a paper base layer 12 and a plastic top layer 14 which is attached to the base layer via a glue line 16 thereby forming a disc pocket 13. The glue line 16 extends along three of the four sides of the top layer 14 and on the fourth side the glue line 16 terminates at a point sufficient to allow a data disc to be inserted into the disc pocket 13 through a disc opening 20. At the glue line termination point

at the edge of the disc opening 20 the glue line extends at an angle away from the edge of the base layer 12 to form a retaining glue line 17. The top layer 14 is die-cut to create a die-cut zipper 18 which can be torn to remove the disc from the disc pocket 13.

FIGS. 2A and 2B illustrate the placement of a data disc 25 into the disc pocket 13. After the disc 25 is placed in the pocket 16 toward the retaining glue line 17 to ensure that it will be retained during the binding processes, the holder 10 is treated as a signature and gathered with other signatures to form the body of the publication. These signatures groups are jogged along a conveyor to the binding apparatus, and during the jogging the signatures are held together along their binding edges 30. This jogging process results in forces f being imparted on the disc 25 as shown in FIGS. 2C and 2D. If the binding edge 30 is located on the same side as the disc opening 20 as shown in FIG. 2C, then the force f results in the disc 25 moving toward the binding edge until it reaches the retaining glue line 17 which stops the movement of the disc 25. If the binding edge 30 is located opposite the side with the disc opening 20 as shown in FIG. 2D, then the force f results in the disc 25 moving toward the binding edge until it reaches one or two sides of the primary glue line 16 which stops the movement of the disc and pins the disc between the top layer 14 and base layer 12. The holder 10 may also be jogged from behind a non-binding edge such as the top edge 31 resulting in the force f moving the disc against the primary glue line 16.

FIGS. 3A and 3B illustrate the holder 10 bound into an untrimmed publication 35 and FIGS. 4A and 4B illustrate the holder 10 bound into a trimmed publication 35. The trim portion 41 of the publication 35 is cut away from the final text portion 40 to create an even trim edge 43 and the trim portion 41 is recycled or discarded. The trim portion 41 can be one or both ends of the publication 35. The trimmed holder portion 42 is included in the trim portion 41 waste

product to be recycled; accordingly, the trimmed holder portion 42 consists solely of the base layer 12 of the holder 10 which constitutes recyclable material.

FIGS. 5 and 6 illustrate the holder 10 bound into a final publication 35 and the removal of the disc 25 from the holder 10. The end customer can remove the disc 25 by simply pulling on the tab 18a which then tears a strip 18b from the top layer 14 and results in a top layer opening 19. The end customer can then easily remove the disc 25 from the disc pocket 13 through the top layer opening 19.

The preceding description of the invention has shown and described certain embodiments thereof; however, it is intended by way of illustration and example only and not by way of limitation. Those skilled in the art should understand that various changes, omissions and additions may be made to the invention without departing from the spirit and scope of the invention.